III. REMARKS

A. Amendments to the Specification and Abstract

Pursuant to the revised amendment format guidelines, the enclosed substitute specification and abstract include revision markings from the immediately prior versions. In the present case, the revision markings show changes from the original specification and abstract filed in the Application.

The changes in the substitute specification and abstract are responsive to the objections raised by the Examiner in the Office Action. In particular, the word "course" has been changed to --course-- throughout the substitute specification and abstract; and the reference to "45 on page 19, line 5 of the original specification has been changed to -46-. The substitute specification includes additional changes made during the course of further review for compliance with 35 USC 112, as well as changes for clarification and grammatical purposes. The substitute specification also includes formatting changes, including (1) elimination of all underlining so as to distinguish revision marking underlining for indication of addition of text material, (2) addition of paragraph numbers, (3) deletion of duplicate consecutive blank lines, (4) changing of font from Courier New to Times New Roman, and (5) certain other formatting changes to promote ease of reading and processing by the Examiner. All of the changes to the substitute specification and abstract are supported by the original application, and such changes do not introduce new matter into the application.

B. Amendments to the Claims

Pursuant to revised amendment format guidelines, a complete listing all claims presented in the application is provided above, with current claim status, along with the text of all claims currently under examination. Currently amended claims include revision markings to show changes as revised from the immediately prior version thereof.

Claim Rejections under 35 USC § 112

Claims 1-9 were rejected under 35 U.S.C. § 112. Claims 1 and 3 were objected to because "course" should have read --course--. In claims 3, 4, 6, 7, 8 and 9, the phrase "adapted to" or "adapted for" was objected as having no technical meaning.

Claim Rejections under 35 USC § 102

Claims 1-9 were also rejected under 35 U.S.C. § 102(b) as being anticipated by Chiovitti, U.S. Patent 5,337,965.

In response to these rejections, claims 1-9 have been canceled, and claims 10-44 have been added.

Chiovitti relates to methods and apparatus for separation of aggregate from asphalt base in roofing products, and the separate recovery of the aggregate and asphalt bodies from which aggregate is disengaged. Chiovitti accomplishes disengagement of the aggregate from the asphalt in a liquid slurry, in a batch-type process in component separator 24 (FIGS. 3-4), and in a continuous process in component separators 124 (FIGS. 6-7). Chiovitti accomplishes separation of the disengaged aggregate and asphalt constituents in a collector 38 in the batch process, and in a flotation apparatus 62 in the continuous process. In the batch process, the collected asphalt is dewatered and collected in container 40, and the collected aggregate is dewatered and collected in container 44. In the continuous process, the collected asphalt is dewatered at filter press 74

and collected in container 76; the collected aggregate is (i) processed through a screen 94 to remove fiber and loose fragments (detritus), and the fiber-free aggregate is dewatered at belt filter 102. In short, Chiovitti is concerned with producing end product by entirely separating the aggregate and asphalt constituents of the roofing material to be recycled. The presence of aggregate together with asphalt in the Chiovitti arrangement occurs only in an unwanted, transitory state. After separation of the asphalt bodies from the aggregate in the flotation device 62, the only material that "may be included in the aggregate and water mix", but is not necessarily included, is residual and unwanted "free fiber and detritus" that is separated from the aggregate at screen 94 (Col.7, lines 18-21).

One aspect of the present invention relates to methods and apparatus for processing used and scrap asphalt shingle material to obtain (i) fine material having an asphalt-aggregate composition and (ii) coarse material. This aspect of the present invention is more clearly defined in new independent claims 10, 24, 35 and 42 with inclusion of the recitation of "(i) fine material having an asphalt-aggregate composition and (ii) coarse material"; and in claims 43 and 44 with similar recitations. In contrast to Chiovitti where the presence of an asphalt-aggregate composition is a mere possibility, undesirable when present, and includes provision for the elimination of such a composition if present, the present invention includes specific provision for production of a fine asphalt-aggregate composition.

Further in contrast to Chiovitti, methods and apparatus of the present invention provide that the fine material is suitable for use in production of a first finished product having an asphalt-aggregate composition, and the coarse material is suitable for production of a second finished product. This aspect of the invention is clarified in claim 10 which includes limitations to "forwarding (i) the fine material to a first asphalt-aggregate composition finished-product

processing line and (ii) the coarse material to a second finished-product processing line", and claims 11-23 depending therefrom. Neither Chiovitti nor the other prior art of record disclose or suggest forwarding fine material having an asphalt-aggregate composition for production of an asphalt-aggregate composition finished-product, and forwarding course material for production of a different finished product therefrom. This aspect of the invention is alternately clarified in claim 42 with the addition of "a first processing line for receiving said fine material and operative to produce an asphalt-aggregate composition finished-product therefrom" and "a second processing line receiving said coarse material and operative to produce a second finished-product therefrom". Neither Chiovitti nor the other prior art of record disclose or suggest providing such an arrangement.

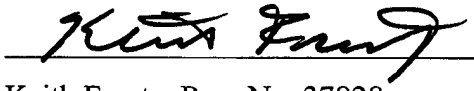
Other aspects of the invention relate to: establishing a target asphalt-aggregate ratio for the fine material, and controlling the asphalt-aggregate ratio as defined in claim 24 and claims 25-34 depending therefrom; establishing a target ratio of fine material to course material, and controlling the ratio of fine material to course material as defined in claim 35 and claims 36-41 depending therefrom; and establishing certain preferred maximum sizes for the shredded course material and maximum sizes and asphalt-aggregate ratios for the fine material as defined in claims 43 and 44. Again, neither Chiovitti nor the other prior art of record discloses or suggests providing such methods and apparatus.

Additional references included in the Office Action are Skaer, U.S. Patent 5,337,901, and Omann, U.S. Patent 5,451,003. Skaer discloses a process for screening granules such as of the type used on asphalt roofing products, and is particularly concerned with substantially eliminating mineral "fines" from the desired product grade granules. Omann is directed to a method for recycling roofing materials into a patch or paving material, and specifically provides

for reduction of the entire roofing material content to a single granular level which can then be heated to produce the patching and paving material. Neither Skaer or Omann suggest or provide support, alone or in combination with other references, for the various unique aspects of the present invention as discussed above and as defined in claims 10-44. Among other things, Skaer and Omann do not suggest production of (i) a fine material having an asphalt-aggregate composition and (ii) a course material from shredded asphalt roofing materials, or forwarding of or processing lines for production of finished products from both the fine asphalt-aggregate composition material and the course material. Skaer and Omann certainly do not contemplate the certain desired target ratios and maximum sizes for such fine and course materials, or establishing or controlling various parameters towards obtaining or to obtain such sizes and ratios.

In summary, none of the references teach the novel methods and apparatus of the present invention as now defined in claims 10-44. Accordingly, Applicant believes the claims are in a condition for allowance, and such action is respectfully requested.

Respectfully submitted,



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